

DEYNARD (A.B.)

The value of Javal's ophthalmometer for the correction of astigmatism × × × × × × ×



[Reprinted from THE POST-GRADUATE, Vol. VII., No. 13, 1892.]

THE VALUE OF JAVAL'S OPHTHALMOMETER FOR THE CORRECTION OF ASTIGMATISM WHERE MARKED AMBLYOPIA IS PRESENT.

BY

A. BRITTON DEYNARD, M.D.,

Instructor in the Refraction of the Eye; Assistant Surgeon Manhattan Eye and Ear Hospital; Fellow of the Academy of Medicine, etc.

A DESCRIPTION of this instrument would be out of place at this late date in its history, and, for those familiar with its use in a general way, any words of mine in its praise would be as unnecessary as would be a plea for the value of Helmholtz's ophthalmoscope. I wish to call attention to its value in a class of cases where there are amblyopic conditions. Such patients have not clearly defined images on their retinae, and it is not possible for them to determine, with any degree of accuracy, with which of the many lenses of different focal force they see best. We may call to our aid such valuable witnesses for the truth as the ophthalmoscope, skiascope, trial case, with or without atropia, but in the ophthalmometer of Javal we have a witness without whose aid our decisions would be in some cases very defective, as the following cases show.

CASE I.—John G., æt. twenty-five, gardener and a reader; albino with a horizontal nystagmus. Was in November, 1886, ordered lenses

O. D. + 8 D. ey. ax. 90°

O. S. + 8 D. ey. ax. 90°

by a competent oculist, after the use of atropia. These glasses did not relieve his asthenopia, but gave vision :

O. D. $\frac{14}{200}$

O. S. $\frac{14}{200}$

In November, 1891, vision was :

O. D. $\frac{6}{200} \frac{14}{200}$ W. + 4 D^s

O. S. $\frac{6}{200} \frac{14}{200}$ W. + 4 D^s

Ophthalmoscopic findings :

R. + 7 D.

L. + 7 D.

Javal :

O. D. 5 D. 90°—180°

O. S. 5 D. 90°—180°

Under homatropine, vision :

O. D. $\frac{6}{200} : \frac{15}{200}$

O. S. $\frac{6}{200} : \frac{15}{200}$

with any combination ranging between 6 D. and 8 D., with or without cylinders.

Falling back on the ophthalmometer markings as a basis for the correction of the astigmatism, + 4 D^s \supset + 3 D. ey. ax. 90°; both



eyes were ordered, which relieved the asthenopia and rendered to the patient, in his own words, "services invaluable."

CASE II.—Mary H., æt. sixteen, waiter in a cloak establishment, suffered from granular lids and keratitis, both eyes, leaving cicatricial tissue on palpebral conjunctivæ and opacities on corneæ. The patient has suffered from blepharitis marginalis from time to time.

January, 1892 :

R. V. $\frac{2}{2} \frac{0}{0}$ +
L. V. $\frac{2}{2} \frac{0}{0}$ +

Javal :

O. D. 3 D. 110° — 20°
O. S. 2.50 D. 90° — 180°

Ophthalmoscopic findings :

R. + 3 D.
L. + 3 D.

Vision :

O. D. $\frac{2}{2} \frac{0}{0}$ — w + 2.50, cy. ax. 110°
O. S. $\frac{2}{2} \frac{0}{0}$ — w + 1.50, cy. ax. 90°

These were ordered and found very beneficial. They enabled the patient to see what could be seen, without the strain of accommodation incident to the regular astigmatic condition.

I was told yesterday, by a friend of this Mary H., that the young woman was keeping from "red eyes" (blepharitis); that she was sewing on tickets in the cloak shop; that she had worked at learning dressmaking during the summer, and that she was so proud of her glasses that it was a part of "her worship."

CASE III.—J. R. M., æt. eighteen years, bookkeeper, applied at the Out-door Department of Bellevue Hospital for relief from eye strain. There were opacities on both corneæ. Atropia was used, but as lenses did not improve vision to any marked degree, and patient was uncertain which glasses gave the best vision, a change of occupation was advised.

February, 1892, the patient again applied for relief.

R. V. $\frac{2}{2} \frac{0}{0}$ +
L. V. $\frac{2}{2} \frac{0}{0}$ +

Javal's ophthalmometer was then used, with the following results :

O. D. 3 D. 120° — 30°

O. S. 2.50 D. 90° — 180°

R. V. $\frac{2}{2} \frac{0}{0}$ — w — 2.50, cy. ax. 30°

L. V. $\frac{2}{2} \frac{0}{0}$ — w — 2, cy. ax. 180°

These were ordered and reported very beneficial, enabling the patient to do his work with comfort.

CASE IV.—Lucy O. C., æt. sixteen, student, came for relief from eye troubles September 15th, 1889. Patient had blepharitis marginalis, and complained that her eyes grew tired when long used at her studies.

Record made at the time :

O. D. $\frac{2}{200}^0$ + } accepts + glasses.
O. S. $\frac{2}{20}^0$ + }

Ophthalmoscopic findings : Hypermetropic. Atropia ordered.

September 19th, under atropia :

O. D. $\frac{1}{200}^0$: $\frac{2}{70}^0$ — w + 1.25 \cap + 4, cy. 90°.
O. S. $\frac{2}{20}^0$: $\frac{2}{30}^0$ — w + 1.50 \cap + 3, cy. 125°.

Ordered :

R. + .25 D^s \cap + 4, cy. 90°.
L. + .50 D^s \cap + 3, cy. 125°.

September 26th, 1892, the patient presented herself with blepharitis marginalis in right eye, stating that she could not get along without her glasses at her studies, but that the right eye had suffered from time to time with that "redness," although the left had kept free from it.

Javal's ophthalmometer showed :

R. 3.50, 90° — 180°.
L. 3.50, 125° — 35°.

Ordered the right lens changed to + 3, cy. ax. 90°.

October 10th patient reports the change an improvement; and although it is too soon to decide, I have no doubt that this more suitable correction will relieve the blepharitis as effectually as it did in the other eye.

CASE V.—Grace M., æt. ten, was taken to one of the leading regular ophthalmic hospitals of this city December 8th, 1888. Had convergent squint, more marked in the right eye. From "card," and papers kept with it, I copy the following record :

"R. V. $\frac{1}{200}^0$, accepts + 6 D.
L. V. $\frac{2}{20}^0$: $\frac{2}{100}^0$ with + 6 D^s.

Atropia ordered one week.

December 15th :

R. V. $\frac{7}{200}^0$: $\frac{2}{100}^0$ w + 6, \cap + 1, 180°.
L. V. $\frac{8}{200}^0$: $\frac{2}{100}^0$ w + 7 D^s.

Ophthalmoscopic findings :

R. + 7 D. vertical.
+ 8 D. horizontal.
L. + 7 D. vertical.
+ 8 D. horizontal.

Ordered :

O. D. + 6 D. \cap + 1, cy. 90°.
O. S. + 6 D. \cap + 1, cy. 90°."

March 25th, 1890, the patient was brought to see if any better glasses could be obtained, as the strabismus had been relieved in part only. Patient looked around the glasses, and turned the head, at times suggesting one with eccentric fixation. She complained of a tired feeling in eyes while studying.

Record from my case book :

$$\begin{aligned} \text{R. V. } & \frac{8}{200} : \frac{15}{200} \text{ W} + 9 \text{ D.} \\ \text{L. V. } & \frac{15}{200} : \frac{20}{200} \text{ W} + 4.50 \text{ D.} \end{aligned}$$

Ophthalmoscopic findings :

+ 7.

+ 7.

Atropia three days :

$$\begin{aligned} \text{R. V. } & \frac{8}{200} : \frac{1}{100} \text{ W} + 8 \text{ D.} \\ \text{L. V. } & \frac{10}{200} : \frac{2}{100} - \text{W} + 8 \text{ D.} \end{aligned}$$

Ophthalmoscopic findings :

+ 10 D.

+ 10 D.

Atropia continued three days longer :

$$\text{R. V. } \frac{5}{200} : \frac{15}{200} \text{ W} + 9.$$

$$\text{L. V. } \frac{10}{200} : \frac{2}{50} - \text{W} + 8 \text{ } \bigcirc + .50, \text{ cy. } 90^\circ.$$

Ophthalmoscopic findings :

R. + 11 D.

L. + 10 D.

Ordered :

+ 9.

+ 8 D. \bigcirc + 50, cy. 90° .

These were thought to be an improvement, but the eccentric fixation-look more or less continued, and the patient returned September 1st, 1892, to see if anything more could be done. Javal's ophthalmometer was then used :

$$\text{O. D. } 4 \text{ D. } 90^\circ - 180^\circ.$$

$$\text{O. S. } 3 \text{ D. } 90^\circ - 180^\circ.$$

Ophthalmoscopic findings :

R. + 11.

L. + 11.

$$\text{R. V. } \frac{8}{200} : \frac{2}{100} \text{ W} + 3.50, \text{ cy. } 90^\circ \bigcirc + 8 \text{ D.}$$

$$\text{L. V. } \frac{15}{200} : \frac{2}{40} \text{ W} + 2.50, \text{ cy. } 90^\circ \bigcirc + 8 \text{ D.}$$

These glasses have been used for a month, and the patient states that she can see better and that the eyes do not hurt "half so much" as they did with the other glasses. The "squinting" has ceased since using these lenses.

It may be argued that the fuller correction of the hypermetropia has made the improvement. This is a matter of opinion, but that Javal gave the astigmatism correctly, when the use of atropia failed to do so, is a fact.

It will be seen that in the most of these amblyopic eyes, vision was not improved in any marked degree. They were all benefited, however, and that by the aid of this last, best gift to the refraction room, the ophthalmometer.

